ATTITUDE CHANGE

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Glossary

Affection Emotional responses which can be expressed verbally or nonverbally.

Attitude The general and enduring evaluative perception of some person, object, or issue.

Attitude change Modification of an individual's general evaluative perception of a stimulus or set of stimuli.

Belief Information, factual and nonfactual, that a person has about other people, objects, or issues.

Cognition Mental processes involved in achieving awareness or knowledge of an object.

Compliance Acting in accordance with the demands or sanctions by others.

Conation Behavioral tendency or actual behavior.

Education The teaching of certain factual information and the teaching of how to think logically so that a person will be capable of making up his or her own mind.

Influence The effect of events and others on behavior.

Persuasion An active attempt to change a person's attitude through information.

ATTITUDE CHANGE refers to a modification of an individual's general evaluative perception of a stimulus or set of stimuli. Thus, changes for any reason in a person's general and enduring favorable or unfavorable regard for some person, object, or issue fall under the rubric of attitude change. Not included under the rubric of attitude change are changes in knowledge or skill (i.e., education), and changes in behavior that require another's surveillance or sanctions (i.e., compliance). Innate predilections to approach or withdraw—such as reflexes or fixed action patterns—and irreversible changes in parameters of approach or withdrawal—such as diminished response vigor due to aging—may be related to attitude change but are not themselves considered instances of attitude change. Attitude change, therefore, represents a specific form of self-control and social control that does not rely on coercion.

I. HISTORY

A. The Scientific Study of Attitudes and Attitude Change

The term attitude comes from the Latin words *apto* (aptitude or fitness) and *acto* (postures of the body), both of which have their origin in the Sanskrit root *ag*, meaning to do or to act. The connection between attitude and action carried into the 18th century, when attitude referred to a physical orientation or position in relation to a frame of reference. Herbert Spencer and Alexander Bain introduced the term attitude into psychology in the 1860s, when they used it to refer to an internal state of preparation for action. Sir Francis Galton subsequently suggested that the interpersonal attitudes (sentiments) of guests at a dinner party could be measured by gauging their bodily orientation toward one another, but it was Louis Thurstone's seminal 1928 paper, "Attitudes Can Be Measured," that precipitated empirical research on the determinants of attitudes. Drawing upon his background in psychophysics, Thurstone conceived of an attitude as the net affective perception of (i.e., feeling toward) a stimulus

rather than as a bodily orientation. He demonstrated in pioneering research that these feelings could be scaled by constructing a set of relevant belief statements that were ordered along a unidimensional continuum ranging from maximal positivity to maximal negativity. Since that time, research on attitudes and attitude change has relied largely on self-report measures, and the dual questions of the determinants of attitude change and of attitude–behavior correspondence have been a focus of research for the past half century.

Dissection and identification of the processes underlying attitude change have occasionally been assailed as fostering the manipulation of the meek. Historical evidence indicates, however, that appeals to people's attitudes as a means of achieving social control have played a central role in only four historical periods: Athens in 427 B.C. to 338 B.C. (during which time Plato and Aristotle considered the processes underlying persuasion), Rome from approximately 150 B.C. to 43 B.C. (during which time Cicero wrote about oration and persuasion), in Europe from approximately 1470 to 1572 (during the Italian Renaissance), and the present period of the mass media which began to take form in the 18th century. The key modes of achieving political, social, and economic control during the remaining periods of human history have been physical force and intimidation rather than attitude change.

B. The Ubiquity of Attitude Changes

This historical context is easy to overlook in light of the emphasis placed in contemporary society on attitude change to motivate consumer selections, resolve conflicts, and modify maladaptive behavior. Based on the billions of dollars spent annually each year on advertising, it has been estimated that the average person in the United States has the potential to be exposed to several thousand persuasive appeals per day. Even if only a small fraction of these appeals are effective, this deluge of appeals suggests that an individual's attitudes are under nearly constant challenge.

Indeed, one of the more surprising findings in the area of attitude change is that repeated, unreinforced exposures to a novel or unfamiliar stimulus result in a positive attitude toward the stimulus. That is, repeated exposure to a novel stimulus that results in neither reward nor punishment breeds preference for this stimulus over a similar stimulus to which an individual has not been exposed. This *mere exposure*

effect has been demonstrated using stimuli as diverse as nonsense words, ideographs, polygons, and faces, and the mere exposure effect is enhanced by factors such as a heterogeneous exposure sequence, a moderate number of presentations of the target stimulus (e.g., less than 100), brief exposure durations (e.g., less than 5 sec), and a delay between the stimulus presentations and attitude measurement. Attitude change due to information emanating from the environment has also been documented *in utero* and appears to be a variation on the mere exposure effect.

II. CLASSIC AND CONTEMPORARY APPROACHES TO ATTITUDE CHANGE

A. Conditioning and Modeling Approach

Although repeated unreinforced presentations of a novel stimulus can influence attitudes, early research drew upon the basic principles of learning from studies of classical and operant conditioning to explain attitude formation and change. The focus of the theories falling under this approach has been on the effects of the direct administration of rewards and punishments to the subject. Thus, attitudes toward stimuli were posited to become more favorable/unfavorable if they were associated with pleasant/unpleasant contexts (classical conditioning) or led to positive/negative outcomes (operant conditioning). Although the roles of contingency awareness and demand characteristics have spawned controversies over the interpretation of the observed attitude changes, evaluative conditioning now appears to be well established and to be more powerful in attitude formation than in attitude change. Studies of modeling further indicated that the classical and operant conditioning of attitudes could occur vicariously. [*See* CLASSICAL CONDITIONING; OPERANT LEARNING.]

B. Verbal Learning Approach

The study of attitude change gained momentum during World War II, when the mass media played an important role in recruiting and indoctrinating troops, maintaining the morale of the Allied forces and residents, and assaulting the morale of the Axis troops. This early research, headed by Carl Hovland, was organized by the question "who said what to whom, how and with what effect." Thus, research

on the determinants of message learning and persuasion was organized in terms of the effects of source factors (e.g., expertise, trustworthiness), message factors (e.g., one-sided, two-sided), recipient factors (e.g., sex, intelligence), and modality or channel factors (e.g., print, auditory). Moreover, the attention to, comprehension of, and retention of the arguments contained in a persuasive message were thought to be the information processing stages underlying attitude change. Experiments were designed initially to assess the simple (e.g., main) effects of source, message, recipient, and channel factors on recall and attitude change, but a disarray of results across experiments led to the use of more complex designs and the discovery of interactive effects on attitude change. The effects of source, message, recipient, and channel factors on attention, comprehension, retention, and attitudes were also often quite discrepant, further calling into question the heuristic value of the processing stages outlined by Hovland and his colleagues. Nevertheless, Hovland and his colleagues' classification of independent variables as source, message, recipient, and channel factors and dependent variables as measures of attention, comprehension, and retention, and their rigorous experimental approach to the study of attitude change, moved the study of attitude change from rhetorical to scientific analyses.

C. Judgmental Approach

A third approach encompasses perceptual–judgmental theories of attitude change. These theories have in common their focus on how attitude judgments are made in the context of a person's past experiences and in the stimulus context in which the attitude question or object is embedded. The judgmental distortions of assimilation and contrast, and their antecedents, have been especially important in perceptual theories of attitude change because these distortions can produce both changes in a person's attitude rating and changes in the attitude. Assimilation refers to a shift in judgments toward an anchor, whereas contrast refers to a shift in judgments away from the anchor. What constitutes an anchor varies across various perceptual theories, but have included the mean affective value of salient contextual stimuli (adaptation level theory), an individual's initial attitude (social judgment theory), and the endpoints of the scales (accentuation theory).

One important contribution stemming from this work is that a host of variables ranging from cultural

background to the order, content, and scale-anchors in attitude surveys can alter attitude ratings even though the underlying attitude may be unaffected or can alter attitudes while leaving attitude ratings unaffected. In an illustrative study, college students read a case about a Mr. R. K. who had been found guilty of threatening to bomb a hospital. Students were then asked to rate themselves in terms of their sentencing disposition on a stern–leniency scale, and they wrote a paragraph justifying this rating. The stern–leniency rating was taken as an indicant of the students' attitude rating, and the justifying paragraph was used to commit the student to this rating. Next, students received the perspective manipulation. Half of them learned that the maximally lenient punishment allowable for this crime was 1 year and the maximally stern punishment was 5 years (narrow perspective); the other half of the subjects were told that the maximally lenient punishment was 1 year but that the maximally stern punishment was 30 years (wide perspective). Afterward, the students were asked how many years they felt Mr. R. K. should be imprisoned for his crime. As expected, the students exposed to the narrow perspective advocated fewer years of imprisonment than subjects exposed to the wide perspective even though both groups would still describe their attitude positions the same.

D. Motivational Approach

A fourth approach focuses on the different human motives as they relate to attitudes and persuasion. The most researched motive is the need to maintain cognitive consistency. Balance theory, cognitive dissonance theory, and congruity theory are among the most influential cognitive consistency theories. There are several characteristics that cognitive consistency theories of attitudes have in common. First, each describes the conditions for equilibrium and disequilibrium among cognitive elements (units of information). Second, each asserts that disequilibrium motivates the person to restore consistency among the elements, usually in order to remove the feeling of unpleasant tension. Third, each describes the means by which equilibrium might be accomplished. Balance theory, for instance, emphasizes the person's point of view about elements of information and their interconnections. Balance, Fritz Heider posited a half century ago, was a harmonious, quiescent motivational state in which all of the elements appeared to the individual to be internally

consistent. Balance was described by Heider as occurring when recipients agree with sources they like or disagree with sources they dislike. These situations were said to be the most pleasant, desirable, stable, and expected state of relationships among any set of elements to which a person heeded. When imbalance exists, as when recipients disagree with sources they like, a motivation to maintain cognitive consistency is aroused and creates a pressure to change one or more relations among cognitive elements to reinstitute cognitive balance.

One of the major criticisms of balance theory is that there are no provisions for degrees of liking or belongingness between elements. Congruity theory overcomes this objection by quantifying gradations of sentiment and belongingness between elements. Nonetheless, congruity theory can be considered a special case of balance theory, in which there are two elements, the source and a concept, and on the assertion made by the source about the concept.

Leon Festinger's theory of cognitive dissonance is perhaps the most widely researched theory in social psychology and is unique among consistency theories in two important regards. First, most consistency theories can consider the interrelationships among a number of elements simultaneously to determine whether the structure of elements is balanced. Dissonance theory considers only pairs of elements at a time. The magnitude of cognitive dissonance within a set of many elements is determined by the proportion of relevant elements that are dissonant and the importance of the elements to the person. Research has also emphasized the importance of perceived choice and foreseeable negative consequences as factors influencing the arousal of cognitive dissonance. Second, cognitive dissonance theory has led to a number of nonobvious predictions regarding attitude change. For instance, dissonance theory specifies conditions in which a low credible source, a low incentive, high effort, or mild threat each leads to greater attitude change than a high credible source, a high incentive, low effort, or severe threat, respectively. The nonintuitiveness of these predictions, coupled with the creative and provocative methods used to confirm these predictions, did much to stimulate research in attitude change.

E. Attributional Approach

The fifth general approach to attitude change involves attitude-inference, or attributional processes. The notion common to the theories that fall under this heading is that a person's inferences about the cause of a behavior is the proximal mediator of the resulting attitude. These attitude-inferences might concern the communicator's behavior ("why is he or she saying that?") or they might concern the person's own behavior ("why did I do that?"). When a behavior is attributed to something about the person, the person's attitude can be a convenient candidate for the cause of the behavior. When a behavior is attributed to the situation, in contrast, the notion of an attitude is unnecessary to account for the behavior.

There are two general attributional principles that have guided much of the attribution research in the area of attitude change. The first is the discounting principle, which states that to the extent that a response (or effect) has a number of plausible causes, the viability of any single cause is discounted or weakened. The second is the augmentation principle, which states that a response or behavior that is unexpected (i.e., unique) given the contextual cues is especially likely to be attributed to something about the person, such as his or her personal attitude. Thus, sources who argue against their vested interests are more persuasive than are sources who argue for their vested interests. [See ATTRIBUTION.]

F. Combinatory Approach

The sixth, combinatory approach to attitudes and attitude change includes mathematical models that have been developed to account for how the attributes of or beliefs about an attitude target are evaluated and integrated to form an overall attitude about the stimulus. In Bill McGuire's probabilogical model of attitude change, for instance, attitude-relevant beliefs are represented in terms of syllogisms, and attitude change is predicted to occur as a mathematical function of changes in these beliefs. Consider the following attitude syllogism:

First premise: Reading *Time* magazine keeps one informed.
Second premise: A magazine that keeps one informed is valuable.
Conclusion: *Time* magazine is valuable.

Research on this model indicates that attitude change varies as a function of both logical consistency and hedonic consistency (wishful thinking). Logical consistency is demonstrated, for instance, as when the conclusion is more likely to be accepted

the more likely is the first or second premise to be true. Hedonic consistency, on the other hand, refers to the tendency for individuals to see things as consistent with their personal desires or wishes. They might therefore tend to see conclusions and premises as more likely the more desirable they are, even if this goes against pure logic. Thus, changes in the probability that an underlying belief is true also produce changes in a person's attitude, but these changes are biased by wishful thinking, a distortion that is especially pronounced in uneducated persons.

Martin Fishbein and Izek Ajzen's theory of reasoned action also focuses on the beliefs underlying an attitude and the rational basis of attitudes, but also emphasizes the correspondence between attitudes and behaviors. According to this theory, the single best predictor of behavior is a person's intention to perform a behavior (i.e., the behavioral intention), which is posited to be a function of two factors: the person's attitude toward the behavior, and the person's subjective norms. Attitudes, in turn, are viewed as determined by the beliefs that a person holds about the consequences of a behavior, including the likelihood that the behavior would lead to certain outcomes, and the person's evaluation of those consequences. Specifically, the attitude is derived by summing the product of the strength of each belief with the evaluative component of the belief. The subjective norm, on the other hand, is posited to be a function of what the person perceives the opinion of significant others regarding the performance of the behavior to be (e.g., the expectations of parents or the opinion of friends), and the person's motivation to comply with their judgments. The subjective norm is derivable by summing the product of the strength of the belief that significant others think one should engage in the behavior with the motivation to comply component. The theory of reasoned action, therefore, suggests that to achieve behavior change, the attitudes and subjective norms for that behavior should be targeted. This theory has proven useful in predicting voluntary or deliberative behaviors, such as voter behavior, but it has done less well in predicting motivated or consistent but "unintentional" behaviors such as smoking cessation or dieting behavior. Although recent theory and research suggest that attitudes may influence behaviors directly as well as indirectly through their influence on behavioral intentions, this theory has contributed to a specification of the factors that moderate attitude–behavior correspondence. A re-

cent variation on this theory, the theory of planned behavior, posits that behavioral intentions are determined by the degree of the subject's perceived control over the action in addition to a person's attitude and subjective norm. Other recent theories of attitude–behavior correspondence have emphasized factors such as the extent to which attitudes are based on issue-relevant thinking, the attitude itself is accessible in memory, the individual's level of self-monitoring and need for cognition, and the behavior being deliberative rather than habitual in nature.

G. Self-Persuasion Approach

The final general approach discussed here is termed self-persuasion because attitude change is not viewed as the consequence of the externally provided information per se, but rather as the consequence of thoughts, ideas, and arguments that the recipients themselves generate. This approach is similar to that of Hovland and his colleagues in recognizing the importance of attention to and comprehension of a persuasive message. However, advocates of this approach make the assumption that when a person anticipates or receives a persuasive communication, an attempt is made to relate issue-relevant information (e.g., message arguments) to the preexisting knowledge that the person has about the attitude stimulus. In doing this, a person considers a substantial amount of information that is not found in, for instance, a persuasive communication or attitude stimulus. These self-generated thoughts may be positive, neutral, or negative toward the stimulus or they may be completely irrelevant to the stimulus. The notion underlying theories that fall under the self-persuasion approach is that the hedonic balance of the issue-relevant thoughts determines the nature and amount of attitude change. If a stimulus evokes primarily favorable thoughts, a positive attitude is fostered; but if a stimulus evokes primarily unfavorable thoughts, a negative attitude is nourished. The goal of theory and research falling under this rubric, therefore, has been to determine how various features of attitude stimuli and persuasive communications influence the hedonic tone of issue-relevant thinking.

III. TWO ROUTES TO ATTITUDE CHANGE

Although these various theoretical approaches postulate different mechanisms as underlying attitude

change, they generally focus on one of two processes: (a) one in which individuals respond to various superficial cues or heuristics in the situation (e.g., celebrity status of the source), and (b) one in which attitude-relevant information is generated and processed (e.g., cogency or speciousness of the message arguments). Thus, these various approaches to attitude change can be conceptualized within a general framework for organizing, categorizing, and understanding the basic processes underlying attitude change. Richard Petty and John Cacioppo have proposed that the many different empirical findings and theories in the field have been viewed as emphasizing one of two relatively distinct *routes to persuasion*. The first is attitude change that occurs as a result of a person's careful and thoughtful consideration of the merits of the information presented in support of an advocacy (*central route*). The second is that occurring as a result of some simple cue in the persuasion context (e.g., an attractive source) that induces change without necessitating scrutiny of the merits of issue-relevant information (*peripheral route*). This model of the psychological operations underlying persuasion highlights that attitudes are multiply determined and that attitudes whose verbal expression is similar may have different antecedents and consequences. For instance, the issue-relevant thinking that characterizes the central route to persuasion can result in the integration of new arguments, or one's personal translations of them, into one's underlying belief structure for the attitude object. In addition, by scrutinizing the strengths and weaknesses of a recommendation, the information and the consequent attitude are rendered more coherent, accessible, and generalizable. Attitudes formed through the central route, therefore, are relatively persistent, resistant to counterpersuasion, and predictive of behavior.

Even though individuals might be motivated generally to hold correct attitudes, the numerous stimuli that individuals must evaluate daily, coupled with their limited time and cognitive resources, make it imperative that they sometimes use cognitively less demanding short-cuts (e.g., simple cues, habits, rules-of-thumbs) to guide attitudinal reactions. That is, people do not have the luxury of adopting only those attitude positions about which they have had the time and opportunity to research if they are going to be able to venture into novel situations or respond to the myriad stimuli to which they are exposed each day. Although the use of superficial persuasion cues or heuristics for attitude change (peripheral route)

can guide responses to a wide variety of stimuli while minimizing the demands on individuals' limited cognitive resources, the resultant attitudes and behavior are based on information that is only superficially or peripherally related to the actual merits of the position. Hence, some responses potentiated by this generally adaptive mechanism may be unreasonable and maladaptive. These maladaptive features of attitudes derived through the peripheral route are diminished somewhat by their relatively short persistence, susceptibility to change, and weak influence on behavior.

IV. THE ELABORATION LIKELIHOOD CONTINUUM

The model outlined in Figure 1 has provided a general framework for understanding how a variety of factors, such as unconditioned stimuli, speed of speech, and source credibility, can increase, decrease, or have no effect on attitude change. If the central route is followed, the perceived cogency of the message arguments and factors that may bias argument processing (e.g., prior knowledge, initial opinion) are predicted to be important determinants of the individual's acceptance or rejection of the recommendation, whereas factors that might serve as persuasion cues are relatively unimportant determinants of attitudes. If, on the other hand, the peripheral route is followed, then the strength of the message arguments and factors that bias argument processing become less important and persuasion cues become more important determinants of attitudes. That is, there is a trade-off between the central and the peripheral route to persuasion.

Importantly, the conditions that lead to influence through the central versus the peripheral route have also been specified. Many attitudes and decisions either are perceived to be personally inconsequential or involve matters about which people are uninformed. In these situations, people may still want to be correct in their attitudes and actions, but they are not willing or able to think a great deal about the arguments for or against a particular position. Peripheral cues provide a means of maximizing the likelihood that one's position is correct while minimizing the cognitive requirements for achieving this position. Processes such as mere exposure and classical or operant conditioning also appear to have stronger effects on attitudes when pre-exposure to
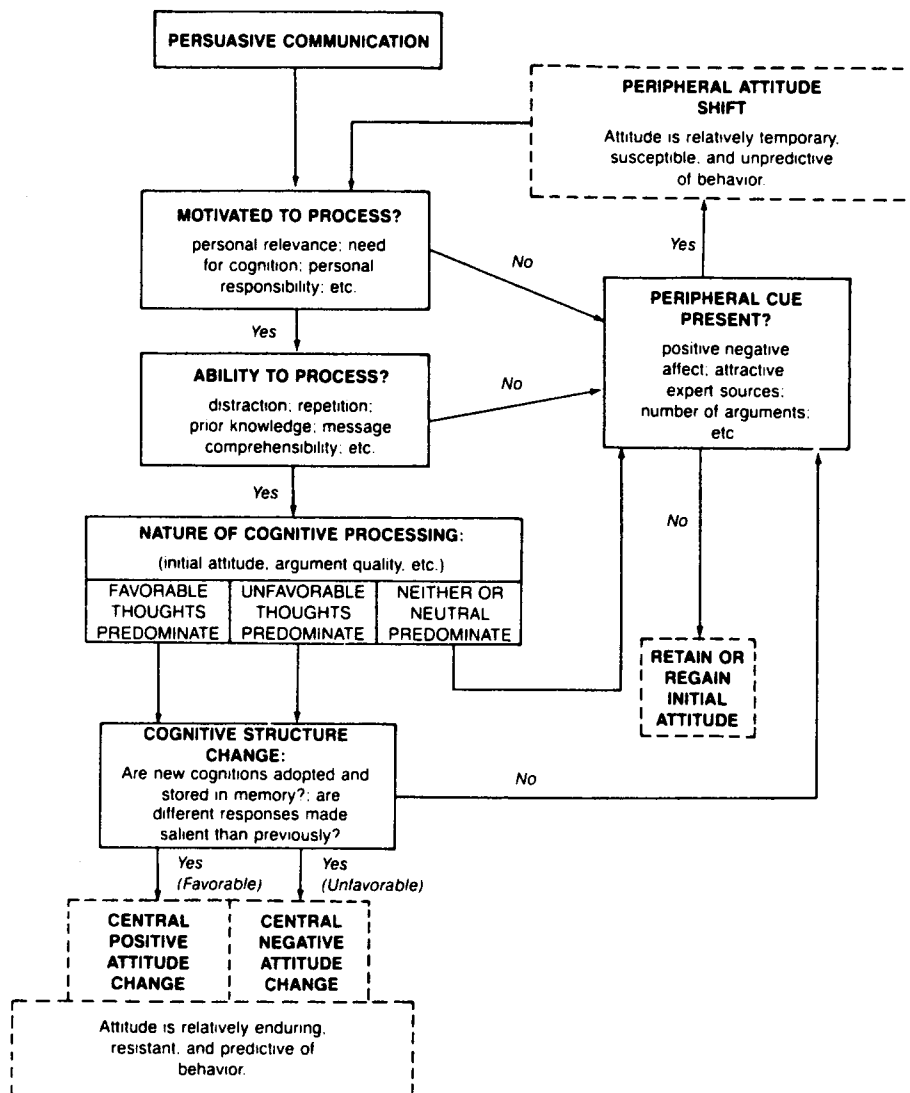
FIGURE 1   The elaboration likelihood model of persuasion. This figure depicts the two anchoring endpoints on the elaboration likelihood continuum: the central and peripheral routes to persuasion. [From R. E. Petty and J. T. Cacioppo (1986), "Communication and Persuasion: Central and Peripheral Routes to Attitude Change." Springer-Verlag, New York.]

and prior knowledge about the attitude stimulus are low rather than high.

Implicit in the central route, on the other hand, is the notion that people must relate the incoming message arguments to their prior knowledge in such a way as to evaluate the cogency and scope of the arguments; that is, they expend cognitive effort to examine the information they perceive to be relevant to the central merits of the advocacy. When conditions foster people's motivation and ability to engage in this issue-relevant thinking, the *elaboration likelihood* is said to be high. This means that people

are likely to attend to the appeal, attempt to access relevant information from both external and internal sources, and scrutinize or make inferences about the message arguments in light of any other pertinent information available. Consequently, they draw conclusions about the merits of the arguments for the recommendation based upon their analyses and derive an overall evaluation of, or attitude toward, the recommendation. Thus, the central and the peripheral routes to persuasion can be viewed as anchors on a continuum ranging from minimal to extensive message elaboration or issue-relevant thinking.

Factors governing an individual's motivation and ability to scrutinize the truthfulness of various attitude positions determine whether the central or the peripheral route operates.

Motivational variables are those that propel and guide people's issue-relevant thinking and give it purposive character. There are a number of variables that have been found to affect a person's *motivation* to elaborate upon the content of a message. These include task or stimulus variables such as the personal relevance of the recommendation, individual difference variables such as need for cognition (i.e., people's chronic tendency to engage in and enjoy effortful thinking), and contextual variables such as the number of sources advocating a position. These kinds of variables act upon a directive, goal-oriented component, which might be termed intention, and a nondirective, energizing component, which might be termed effort or exertion. [See MOTIVATION.]

Intention is not sufficient for high elaboration likelihood. One can want to think about an attitude stimulus or issue but not exert the necessary effort to move from intention to thought and action. If both intention and effort are present, then motivation to think about the advocacy may exist, but issue-relevant thinking may still be low because, for instance, the individual does not have the ability to scrutinize the message arguments. There are a number of variables that can affect an individual's *ability* to engage in message elaboration, including task or stimulus variables such as message comprehensibility, individual difference variables such as intelligence, and contextual variables such as distraction and message repetition. Contextual variables that affect a person's ability to elaborate cognitively on issue-relevant argumentation can also be characterized as factors affecting a person's opportunity to process the message arguments. [See INTENTION.]

Experiments have demonstrated that if task, individual, and contextual variables in the influence setting combine to promote motivation and ability to process, then the arguments presented in support of a change in attitudes or behavior are thought about carefully. If the person generates predominantly favorable thoughts toward the message, then the likelihood of acceptance is enhanced; if the person generates predominantly unfavorable thoughts (e.g., counterarguments), then the likelihood of resistance or boomerang (attitude change opposite to the direction advocated) is enhanced. The nature of this elaboration (i.e., whether favorable or unfavorable issue-relevant thinking) is determined by whether

the motivational and ability factors combine to yield relatively objective or relatively biased information processing and by the nature of the message arguments. If elaboration likelihood is low, however, then the nature of the issue-relevant thinking is less important, and peripheral cues become more important determinants of attitude change (see Fig. 1).

A number of recent experiments have explored ways to stimulate or impair thinking about the message arguments in a persuasive appeal. Distraction, for instance, can interfere with a person's scrutiny of the arguments in a message and thereby alter persuasive impact. In an illustrative experiment on distraction and persuasion, students listened to a persuasive message over headphones while monitoring in which of the four quadrants of a screen a visual image was projected (a distractor task). In the low distraction condition, images were presented once every 15 seconds, whereas in the high distraction condition images were presented once every 5 seconds. Importantly, neither rate of presentation was so fast as to interfere with the students' comprehension of the simultaneously presented persuasive message, but the students' argument elaboration was much more disrupted in the high than low distraction condition. The results revealed that the students were less persuaded with distraction when the arguments were strong, but more persuaded with distraction when the arguments were weak.

Numerous task, contextual, and individual difference variables have been identified that enhance or impair argument elaboration by affecting a person's motivation or ability. Moderate levels of repetition of a complicated message can provide individuals with additional opportunities to think about the arguments and, thereby, enhance argument processing. Messages worded to underscore the self-relevance of the arguments enhance individuals' motivation to think about the arguments. Being singly responsible rather than one of many assigned to evaluate the recommendation can induce more issue-relevant thinking, as individuals are unable to diffuse their responsibility for determining the veracity of the recommendation.

V. ARGUMENT ELABORATION VERSUS PERIPHERAL CUES AS DETERMINANTS OF ATTITUDE CHANGE

The hypothesis that there is a tradeoff between argument scrutiny and peripheral cues as determinants

of a person's susceptibility or resistance to persuasion has also been supported by recent research. In an illustrative study, two kinds of persuasion contexts were established: one in which the likelihood of relatively objective argument elaboration was high, and one in which the elaboration likelihood was low. This was accomplished by varying the personal relevance of the recommendation: students were exposed to an editorial favoring the institution of senior comprehensive exams at their university, but some students were led to believe these comprehensive exams would be instituted next year (high elaboration likelihood) whereas others were led to believe the exams would be instituted in 10 years (low elaboration likelihood).

To investigate the extent to which students' argument scrutiny determined attitudes, half of the students heard eight cogent message arguments favoring comprehensive exams, and the remaining students heard eight specious message arguments favoring the exams. Finally, to examine the extent to which peripheral cues were important determinants of attitudes, half of the students were told the recommendation they would hear was based on a report prepared by a local high school class (low expertise), whereas half were told the tape was based on a report prepared by the Carnegie Commission on Higher Education (high expertise). Following the presentation of the message, students rated their attitudes concerning comprehensive exams and completed ancillary measures. Results indicated that argument quality was the most important determinant of the students' attitudes toward comprehensive exams when they believed that the recommendation was consequential for them personally, but that the status or expertise of the source was the most important determinant of the students' attitudes when they believed that the recommendation would not affect them personally. These results held even though comprehension of the message arguments and judgments of the expertise of the source were equal across the experimental groups.

VI. OBJECTIVE VERSUS BIASED INFORMATION PROCESSING

Message processing in persuasion research was traditionally thought to imply objective processing. This, too, was an oversimplification. When an individual is motivated to scrutinize arguments for a position, there are no assurances that the information processing will be objective or rational. *Objec-*

tive argument processing means that a person is trying to seek the truth wherever that may lead. When a variable enhances argument scrutiny in a relatively objective manner, the strengths of cogent arguments and the flaws in specious arguments become more apparent. Conversely, when a variable reduces argument scrutiny in a relatively objective fashion, the strengths of cogent arguments and the flaws of specious arguments become less apparent. Objective processing, therefore, has much in common with the concept of "bottom–up" processing in cognitive psychology because elaboration is postulated to be relatively impartial and guided by data (in this case, message arguments).

In contrast, *biased argument processing* means that there is an asymmetry in the activation thresholds for eliciting favorable or unfavorable thoughts about the advocacy. Consequently, the encoding, interpretation, and recall of the message arguments are distorted to make it more likely that one side will be supported over another. Biased processing has more in common with "top–down" than "bottom–up" information processing, because the interpretation and elaboration of the arguments are governed by existing cognitive structures, such as relevant knowledge or attitude schema, which guide processing in a manner favoring the maintenance or strengthening of the original schema. Research on factors such as the role of initial attitudes has demonstrated that people are sometimes motivated and able to augment even specious arguments to arrive at a more cogent line of reasoning for their desired position.

VII. MULTIPLE AND INTERACTIVE EFFECTS

Another reason the processes underlying persuasion have appeared enigmatic is that some variables may increase argument processing at one level of the factor, but may actually bias or decrease argument processing at a different level of that factor. For instance, repeating a long or complicated persuasive message can provide individuals with additional opportunities to think about the message arguments and, therefore, enhance relatively objective argument scrutiny. Excessive exposures to a persuasive message can become tedious, however, and can actually motivate a person to reject the recommendation. Hence, the same stimulus factor—message repetition—had quite different effects on issue-

relevant thinking as the amount of this factor increased.

Factors previously thought to have simple effects on information processing and persuasion have also been found to have quite different effects depending on the presence or absence of other factors. For instance, presenting a persuasive message on a noninvolving issue in rhetorical rather than declarative form can increase an individual's propensity to think about the message arguments. When the recommendation is already personally involving, however, the insertion of rhetorical questions in the message arguments can actually interfere with the individual's ongoing idiosyncratic argument scrutiny. Thus, the introduction of new factors (e.g., arguments presented in rhetorical rather than declarative form) can have striking but explicable effects on people's cognitive processes and attitudes.

In sum, two assumptions underlying early work were that each of source, message, channel, and recipient factors had general and independent effects on persuasion; and a close correspondence existed between attitude change and behavior change across situations. Both assumptions proved to be oversimplifications. Indeed, after accumulating a vast quantity of data and a large number of theories, there was surprisingly little agreement concerning if, when, and how the traditional source, message, recipient, and modality variables affected persuasion. The existing literature by the mid-1970s supported the view that nearly every independent variable studied increased persuasion in some situations, had no effect in others, and decreased persuasion in still other contexts. This diversity of results was even apparent for variables that on the surface, at least,

appeared to be quite simple. For example, although it might seem reasonable to propose that by associating a message with an expert source, agreement could be increased (e.g., see Aristotle's *Rhetoric*), experimental research suggested that expertise effects were considerably more complicated. Sometimes expert sources had the expected effects, sometimes no effects were obtained, and sometimes reverse effects were noted. Research since the early to mid-1970s has resulted in theoretical advances that better account for these and other complicated patterns of data by specifying the cognitive processes that are activated by the presentation of an attitude stimulus or persuasive appeal.

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